PROJECT NUMBER: 2500
PROJECT TITLE: Fundamental Chemistry
PROJECT LEADER: J. I. Seeman
PERIOD COVERED: June, 1988

I. FLAVOR/ODOR CHEMISTRY (Paine, Seeman)

A. Objective: To develop new technologies for smoke deliveries of desired flavorants; to prepare new substances for flavor/odor evaluation; to develop methodologies for the analysis of subjective data; to derive relationships between physicochemical parameters and subjectives.

B. Results and Plans: Large scale preparations of d-isomenthone, d-menthol, and l-menthone were completed and 10 g samples of each were transfered to Flavor Development. Large scale (1.5 mole each) preparations of both tri-d-menthyl borate and tri-l-menthyl borate are in progress. D-Isomenthol was purified by crystallization and supplied to F. Gullotta. Additional work in this area continues as well.

Discussions continue with Professor R. Anholt (Duke University) regarding a collaborative trigeminal research program. Preparation of a manuscript comparing odor profiling and rank scaling on green/bell pepper odorants is in progress.

II. MISCELLANEOUS (Paine, Secor, Seeman)

Results:

A. Succinylated 4'-(2-hydroxyethyl)nicotine was prepared and analytical data is being obtained. This compound, upon final purification, will be given to B. Davies for use in various biochemical studies.

B. Efforts have begun to prepare a nicotine release agent to examine (by S. Haut) the smoke chemistry of nicotine as it may be related to unextractable nicotine.

C. We are in the final experimental and writing stages for a draft of a patent on aminonicotinoids.

D. Literature work and evaluations have been undertaken to develop novel inorganic adducts to cigarette paper for sidestream control.

E. Discussions continue with Sepracor, and we continue to support their work on the use of novel membrane technology in the separation of nicotine from aqueous liquors.

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